

Notice of Allowability

Application No.

10/808,521

Applicant(s)

KATO, KENJI

Examiner

John H. Le

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/25/2005.
2. ☒ The allowed claim(s) is/are 1,2,4,5 and 7-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Response to Amendment

1. Applicant's amendment filed 10/25/2005 has been entered and carefully considered.

Claims 1, 2, 4, 5, and 7-10 have been amended.

Claims 3 and 6 have been cancelled.

Claims 11-14 have been added.

Reasons for Allowance

2. Claims 1, 2, 4, 5, and 7-14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Please see the previous office action and applicant's argument filed on 10/25/2005.

Regarding claim 1, none of the prior art of record teaches or suggests the combination of an abnormality detecting apparatus for detecting an abnormal condition of a vibration-type angular velocity sensor, wherein the apparatus comprising frequency component extracting means for extracting, from a predetermined signal, a specific frequency component determined based on at least one of a driving system resonance frequency related to a driving system of said angular velocity sensor and a sensing system resonance frequency related to a sensing system of said angular velocity sensor, said angular velocity sensor capable of producing an erroneous output when receiving said specific frequency component of the predetermined signal; and judging means for outputting a signal notifying of an abnormal condition of said angular velocity

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sensor when the level of said specific frequency component is larger than said predetermined level. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 4, none of the prior art of record teaches or suggests the combination of an abnormality detecting method for detecting an abnormal condition of a vibration-type angular velocity sensor, wherein the method comprising the steps of extracting, from a predetermined signal, a specific frequency component determined based on at least one of a driving system resonance frequency related to a driving system of said angular velocity sensor and a sensing system resonance frequency related to a sensing system of said angular velocity sensor, said angular velocity sensor capable of producing an erroneous output when receiving said specific frequency component of the predetermined signal; and outputting a signal notifying of the abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 8, none of the prior art of record teaches or suggests the combination of an abnormality detecting program executed in a computer for detecting an abnormal condition of a vibration-type angular velocity sensor, wherein the abnormality detecting method comprising the steps of extracting, from a predetermined

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signal, a specific frequency component determined based on at least one of a driving system resonance frequency related to a driving system of said angular velocity sensor and a sensing system resonance frequency related to a sensing system of said angular velocity sensor, said angular velocity sensor capable of producing an erroneous output when receiving said specific frequency component of the predetermined signal; and judging means for outputting a signal notifying of the abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 9, none of the prior art of record teaches or suggests the combination of an abnormality detecting apparatus for detecting an abnormal condition of a vibration-type angular velocity sensor, wherein the abnormality detecting apparatus comprising frequency component extracting means for extracting, from a predetermined signal, a specific frequency component determined based on at least one of a driving system resonance frequency related to a driving system of said angular velocity sensor and a sensing system resonance frequency related to a sensing system of said angular velocity sensor, said angular velocity sensor capable of producing an erroneous output when receiving said specific frequency component of the predetermined signal; and judging means for outputting a signal notifying of an abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level. It is these limitations as they are claimed in the combination with

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other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 10, none of the prior art of record teaches or suggests the combination of an abnormality detecting apparatus for detecting an abnormal condition of a vibration-type angular velocity sensor, wherein the abnormality detecting apparatus comprising a specific frequency component is determined based on at least one of the determined resonance frequency of the vibrator element along said vibration direction and a sensing system resonance frequency of the vibrator element along said sensing direction, said angular velocity sensor capable of producing an erroneous output when receiving said specific frequency component of the specific frequency range; and second judging means for outputting an abnormality signal when it is judged by said first judging means that the detected frequency is within said specific frequency range. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H. Le whose telephone number is 571 272 2275.

The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571 272 2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John H. Le

Patent Examiner-Group 2863

October 29, 2005



MICHAEL NGHIEM
PRIMARY EXAMINER